

WHAT IS CLAIMED IS:

- 1 1. A laser arbor for a saw having a spindle that rotates a saw
2 blade relative to a non-rotating portion of the saw, the laser arbor comprising:
3 a housing;
4 a laser light disposed at least in part within the housing;
5 a circuit electrically connected to the laser for providing power to the
6 laser, the circuit providing power from a voltage source that includes a portion
7 secured to the non-rotating portion of the saw.
- 1 2. The laser arbor for a saw having a spindle of claim 1 wherein
2 the circuit further comprises a generator having a rotor associated with the spindle
3 and a stator associated with the non-rotating portion of the saw, whereby electrical
4 energy is generated as the spindle rotates the rotor relative to the stator.
- 1 3. The laser arbor for a saw having a spindle of claim 1 wherein
2 the circuit further comprises a generator having a permanent magnet secured to a
3 fixed guard and an arcuate coil section rotated by the spindle.
- 1 4. The laser arbor for a saw having a spindle of claim 1 wherein
2 the circuit further comprises an inductively coupled power source comprising a first
3 induction coil that is rotated by the spindle and a second induction coil that is on the
4 non-rotating portion of the saw, and wherein power for the laser light is provided
5 by the inductively coupled power source.
- 1 5. The laser arbor for a saw having a spindle of claim 1 wherein
2 the circuit further comprises a power source electrically connected by slip ring
3 contacts that establish electrical contact between the power source and the circuit,
4 wherein the slip ring contacts comprise a first set of contacts that rotate with the saw
5 blade and a second set of contacts that are stationary which contact the first set of
6 contacts.

1 6. The laser arbor for a saw having a spindle of claim 1 wherein
2 the circuit further comprises a power conditioning circuit that provides power within
3 a predetermined voltage range to the laser.

1 7. The laser arbor for a saw having a spindle of claim 1 wherein
2 a fixed guard is part of the non-rotating portion of the saw.

1 8. A saw comprising:
2 a motor having a spindle;
3 a blade secured to the spindle and rotated by the motor to cut a
4 workpiece;
5 a laser arbor having a housing secured to the spindle for rotation with
6 the blade;
7 a light source disposed in the housing, the light source emitting a
8 narrow beam of light adjacent the blade for providing a visual indication of the
9 alignment of the blade with the workpiece; and
10 a generator electrically connected to the light source for providing
11 power to the light source, wherein the generator includes a rotor associated with and
12 rotated with the housing and a stator secured adjacent to the housing, the rotor being
13 rotated by the motor relative to the stator for generating a electrical power for the
14 light source.

1 9. The saw of claim 8 wherein the rotor is an electrical coil.

1 10. The saw of claim 9 wherein the stator is an electrical magnet.

1 11. The saw of claim 9 wherein the stator is a permanent magnet.

1 12. The saw of claim 9 wherein the rotor is electrically connected
2 to a power conditioning circuit that provides power directly to the light source.

1 13. The saw of claim 8 wherein the light source is a LED laser.

1 14. A saw comprising:
2 a motor having a spindle;
3 a blade secured to the spindle and rotated by the motor to cut a
4 workpiece;

5 a laser arbor having a housing secured to the spindle for rotation with
6 the blade;

7 a light source disposed in the housing, the light source emitting a
8 narrow beam of light adjacent the blade for providing a visual indication of the
9 alignment of the blade with the workpiece; and

10 an inductively coupled power source electrically connected to the
11 light source, wherein the power source includes a first induction coil associated with
12 and rotated with the housing and a second induction coil secured adjacent to the
13 housing, the second induction coil inducing voltage in the first induction coil to
14 provide power to the light source.

1 15. The saw of claim 14 wherein the rotor is electrically
2 connected to a power conditioning circuit that provides power directly to the light
3 source.

1 16. The saw of claim 14 wherein the light source is a LED laser.

1 17. A saw comprising:
2 a motor having a spindle;
3 a blade secured to the spindle and rotated by the motor to cut a
4 workpiece;

5 a laser arbor having a housing secured to the spindle for rotation with
6 the blade;

7 a light source disposed in the housing, the light source emitting a
8 narrow beam of light adjacent the blade for providing a visual indication of the
9 alignment of the blade with the workpiece; and

10 a generator electrically connected to the light source for providing
11 power to the light source, the generator having a permanent magnet secured to a
12 fixed guard and a coil rotated by the spindle.

1 18. A saw comprising:
2 a motor having a spindle;
3 a blade secured to the spindle and rotated by the motor to cut a
4 workpiece;
5 a laser arbor having a housing secured to the spindle for rotation with
6 the blade;
7 a light source disposed in the housing, the light source emitting a
8 narrow beam of light adjacent the blade for providing a visual indication of the
9 alignment of the blade with the workpiece; and
10 a power source electrically connected by a plurality of slip ring
11 contacts that establish electrical contact with the light source, wherein the slip ring
12 contacts comprise a set of rotating contacts that rotate with the blade and a set of
13 fixed contacts that are stationary and are mounted on the saw to contact the first set
14 of contacts.

2009 RELEASE UNDER E.O. 14176